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DIAGNOSIS AND TREATMENT

OF

POSTERIOR POSITIONS OF THE OCCIPUT.

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CALLED to a case of labor the physician promptly responds. According to the account, given by an intelligent nurse, the labor has been going on two or three hours. The patient's condition, both mental and physical, is good. A vaginal examination discovers the os uteri to be one-third dilated, the child's head presenting. Having assured all the interested parties of the perfectly satisfactory condition of the situation, the doctor hastens away to complete the work of the day, so as to be on hand when his services shall be required. A few hours later he finds the os uteri fully dilated, the head somewhat descended, although not quite so far as he had anticipated, and, again congratulating the patient and her friends on the favorable progress of the case, he once more hastens away to make the remaining one or two visits, possibly revolving in his mind, however, the conscious surprise that he experienced in not finding the head further advanced. Returning in an hour, his work for the day done, the head is found to be a trifle lower, the pains excellent, but the woman somewhat tired. Realizing that the end is not far off he awaits the termination of the labor, which is now, in his opinion, close at hand. Time passes; the pains are all that could be desired, but the child is not born. Flattering himself that the head is lower, at least it ought to be and he hopes that it is, he waits. One, two hours go by; the woman, like the doctor, becomes impatient, but

there is no progress, except what the doctor tries hard to imagine. The patient's pulse, as well as her mental condition, is beginning to show the effect of the labor. It is evident that something must be done, and, as all that is needed is a little help, the aid of the forceps is invoked. Assuring the patient and her friends that the operation really amounts to nothing and that in a few moments, without further suffering, the child will be born, the patient is etherized, the forceps are applied, traction is exerted and the forceps begin to slip. Surprised, disappointed, wondering and with some misgivings, the forceps are reapplied only to slip again; the head remains where it was. A more careful examination is now made, but no light is thrown on the problem, and the puzzled attendant asks for the assistance of a friendly professional brother. He arrives, but somehow the forceps again fail to work. The case begins to look serious. At length, after alternate pulling on the handles and readjusting of the blades, the child is delivered stillborn; the perineum is sewed up and the doctors retire homeward, each explaining to the other what the trouble was, and, at the next meeting of the local medical society, the doctor reports the case as one of difficult forceps, owing to a slight, though undescribed, pelvic deformity. The nurse, if very intelligent and observing, wonders to herself why the face, when it escaped from the vulva, looked forward instead of backward, and the youngest member of the local society, fresh from the medical school, suggests that the trouble might have been due to an unrecognized posterior position of the occiput, and consequently a wrong application of the forceps; a suggestion received with that silent smile of experience which at once sets the young man to thinking and possibly also some of the older members of the society.

The above sketch is the clinical history of not a small number of obstetric cases; the above undescribed but assumed pelvic deformity the cause of a fair proportion of stillborn children.

Two years ago, asked by the students of the Harvard Medical School to lecture on the mistake which, when called in consultation, I most frequently saw made by physicians, I spoke on the diagnosis and treatment of this class of cases. Asked by the committee in charge to prepare something for this annual meeting of the Massachusetts Medical Society, I could think of no more practical subject, and therefore offer the following brief paper on the Diagnosis and Treatment of Posterior Positions of the Occiput, occurring in a normal pelvis and with a normal fœtus at full term.

The careful obstetrician is one who recognizes that for an intelligent attendance on a case of labor a knowledge of the fœtal position is just as important as a correct diagnosis of the presentation. As a rule, however, practitioners usually content themselves with making out the presentation, and, having assured themselves that the head is presenting, consider the position a matter of minor importance, knowing that cephalic presentations usually come out all right. Now, as a matter of fact, it is in these head presentations that a comparatively slight deviation from the usual position can occasion more difficulty than in any other, for the reason that the deviation is usually unrecognized and the assistance often rendered, when the case does not progress as the practitioner had anticipated, is consequently unscientific and not unfrequently precisely the reverse of that which the condition demands.

The neglect to make out the position until some unexpected and unexplained delay renders such knowledge imperative, allows the formation of a caput succedaneum. This of itself often renders any attempt to make out the diagnosis per vaginam a matter of considerable difficulty; while the œdema of the vagina in advance of the presenting part only adds to the obscurity of the problem.

The diagnosis of a position would be rendered much easier if the practitioner would avail himself of the great advantage to be gained by the use of external palpation.

Fourteen years ago (1871) I read at the annual meeting of this Society a paper on the use of External Manipulation in Obstetric Practice, showing with what ease the presentation could be made out by this method of examination. The paper contained nothing original, being simply a statement of the teaching in Vienna at that time. My attention was subsequently called to a paper[1] read in 1869 by Dr. J. T. Whittaker, before the Cincinnati Academy of Medicine, on "The Examination by Palpation of the Pregnant Abdomen," which was also a resumé of the practice in Germany. In 1872, Dr. J. R. Chadwick published[2] a more detailed account of the continental methods of making external examinations. In 1873, and again in 1875, Dr. Frank C. Wilson published[3] papers on "Fœtal Physical Diagnosis," with, however, special reference to the value of auscultation. In 1879, Dr. Paul F. Mundé published[4] an admirable article on the "Diagnosis and Treatment of Obstetric Cases by External Manipulation." None of these writings, however, contained any special directions as to the method of differentiating the posterior from the anterior positions of the occiput,—Dr. Mundé, whose paper was the most elaborate, dismissing occipito-posterior positions as "merely abnormal rotations or arrest of rotation of the two regular vertex presentations."

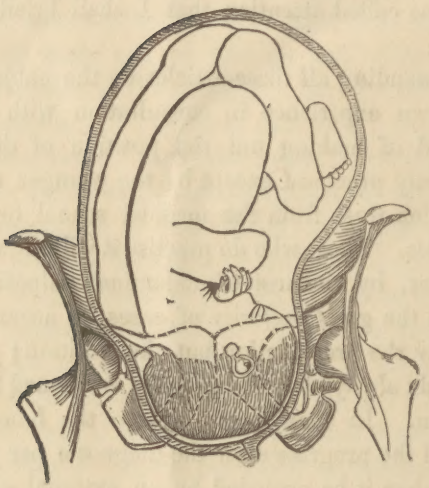
In 1878 Prof. A. Pinard, of Paris, published a most admirable monograph on Abdominal Palpation, which has recently (1885) been translated into English by Dr. L. Ernest Neale, of Baltimore, in which he treats in detail of the differential diagnosis of the posterior and anterior positions. This is, so far as I know, the first published account of how such a differential diagnosis can be made out. Some points that will aid the practitioner in arriving at a

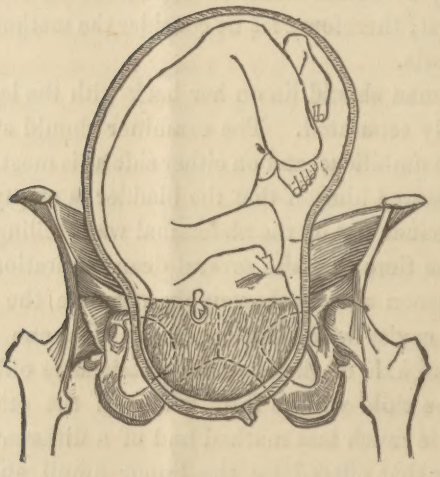
[1] Philadelphia Medical and Surgical Reporter, Nov. 20, 1869.
[2] Boston Medical and Surgical Journal, Aug. 15 and 22, 1872.
[3] American Practitioner, July and October, 1879.
[4] American Journal of Obstetrics, July and October, 1879.

correct diagnosis are, however, not touched upon in Prof. Pinard's article, and it is to these as well as to those to which he has called attention that I shall briefly allude in this paper.

Notwithstanding all these articles on the subject, judging from my own experience in consultation with physicians, this method of making out the position of the fœtus in utero is rarely practised except by the younger members of our profession fresh from the medical school or the continental clinics. Those who do practise it will, however, agree with me that, by the use of abdominal palpation, we are enabled, in the great majority of cases, to accurately make out not only the presentation but the position; a diagnosis which should always be subsequently confirmed by a vaginal examination. In many cases where the labor has been tedious and the progress slow the diagnosis per vaginam is difficult, unless it be preceded by an external examination, by which we can often easily make out the probable condition. This once known, a subsequent verification of the position by a vaginal examination is a matter of comparative ease. First, therefore, let us consider the method of making the diagnosis.

The woman should lie on her back with the legs extended and slightly separated. The examiner should stand on the level of the umbilicus, and on either side as is most convenient. Having assured himself that the bladder is empty, he should place his hands flat on the abdominal wall, telling the patient at the same time to make several deep expirations. In this way he is soon able to thoroughly examine the uterus and the pelvic cavity with their contents. On one side of the longitudinal axis of the uterus the resistance offered by the back of the child will be felt, while on the other side the resistance is much less marked and of a different character, being only that offered by the liquor amnii and the fœtal extremities. The location of the dorsum is thus easily made





out, and the occiput must be on the same side. Is it anterior or posterior? If it is posterior a more limited resisting surface is felt, and one which is more marked the farther one goes from the median line and the nearer the palpating hand reaches the lateral border of the uterus. If it is anterior the resisting surface passes to a greater or less degree over the median line, and, in many patients, the fœtal vertebral column can be distinctly made out, which of course can never be done if the position is posterior. Moreover, as Pinard has noticed, the frontal end of the child's head being higher up in the mother's abdomen than the occiput, is first reached by the hands of the examiner, and as the fingers approach nearer and nearer to the symphysis pubis the one which is on the side towards which the face points is first arrested, the flexion of the head allowing the hand over the occiput to pass lower into the pelvic cavity.

There are of course cases in which, owing to an unusual thickness of the abdominal wall or a large amount of liquor amnii, it is not possible to so accurately map out the fœtal outline in the manner described as to say positively whether the occiput is anterior or posterior. But even in these cases an external examination will rarely fail to greatly facilitate the determination of the position. Those cases must be very exceptional in which we cannot, with absolute certainty, say on which side of the longitudinal uterine axis the back of the child lies. Given the situation of the back in the uterus, we know that the occiput, as has been already said, must be on the same side of the pelvis.

From a careful examination made early in labor of nearly 1000 cases (981), occurring in my own practice and at the Boston Lying-In Hospital, I find that the head entered the superior pelvic strait in the right oblique diameter in 963, or 98 per cent. Nægelé, whose work on the subject has become classical, states that this occurs in 99 per cent. of all cases. I am aware that Dr. R. U. West takes exception

to Nægelé's statement,[1] and claims that the head so entered the pelvis in only 60 per cent. of a large number of cases in which he had an opportunity of making an early examination. The limits of this paper preclude any attempt to discuss West's elaborate paper on the subject, which I think, however, open to several serious criticisms. My experience is in accord with the views of Nægelé, whose statement has also been accepted by nearly all the recent writers on the subject. If, therefore, an external examination shows us that the back of the child is in the mother's left, we know that the position must be that usually known as the first or occipito left anterior; for all observers, including even West, agree that the fourth or occipito left posterior is so rare as to be considered only as a very exceptional possibility. If, on the other hand, the child's back is found in the right, we may be dealing with either the second or the third position, that is, with an occipito right posterior or anterior. A vaginal examination will, however, in many cases at once determine the position. If per vaginam the examining finger finds that the head is only just engaged at the superior strait, it is in all probability a posterior position; for it is in that diameter that the head usually enters the pelvis. If, on the other hand, the head has begun its descent, it may be either. It will enter in the right oblique; as it descends it may or may not have rotated, and an examination of the sutures and fontanelles will alone determine whether rotation has begun or not. In every case an examination per vaginam of the sutures and fontanelles should of course be made, for the purpose of confirming the diagnosis thus already made out. Practitioners who have never accustomed themselves to practise external examination will be astonished to find how, in the great majority of perplexing cases, the vaginal confirmatory examination will be found to be greatly facilitated by the knowledge previously acquired by manipulation of the abdomen.

[1] Glasgow Medical Journal, October, 1856, and January, 1857.

So much then for the diagnosis of posterior positions, and on their early recognition will the successful management of many of them depend. Some, in fact the great majority, take care of themselves; but every now and then the practitioner meets a case such as I attempted to describe in the beginning of this paper,—a case in which his neglect to early recognize the position allowed the patient to go from bad to worse, and resulted in an unscientific interference terminating in a way which is a disgrace to our knowledge of the true mechanism of labor.

One unvarying principle in this mechanism is, that the part of the fœtus which is the lowest in its descent through the pelvis, must rotate forward under the arch of the pubes whenever it reaches the resistance offered by the lower pelvic strait. If the occiput presents in the posterior position as the labor progresses, and the head descends, the occiput must, therefore, when it reaches this resistance, rotate forward and become an anterior position. If, as the head descends, no such rotation takes place, it can only be because some other part of the head than the occiput has first reached the point where resistance is encountered, and that part therefore, instead of the occiput, is then forced forward. This of course can only happen when there is lack of complete flexion, and, as a consequence, some other part of the fœtal head than the occiput is lower and first meets resistance. In other words, whenever we find that a head presenting with the occiput posterior fails of an occipital forward rotation, we know that we are dealing with a head more or less extended. As the head in such cases descends, the expulsive force must act by driving the sinciput, which is the lowest part, forward, and the occiput necessarily turns backwards into the hollow of the sacrum into which it is crowded, thus more and more shifting the pressure on the long arm of the lever and increasing the extension, the occipito-frontal diameter of the head taking the place of the

sub-occipito-bregmatic. This gradual extension is readily detected by the greater ease with which the examining finger reaches the anterior fontanelle the lower the head descends.

The treatment of cases of occipito-posterior positions should be in the main what one might call prophylactic. The great majority of them require no treatment, beyond a careful watching on the part of the attending physician. Governed by the principle that the lowest part of the presenting head must rotate forward, the occiput, though originally posterior, when it reaches the floor of the pelvis is rotated forward and assumes an anterior position. Rotation of the frontal end forward does, however, occur, as has been said, whenever there is a failure of proper flexion. West reports 79 such cases out of 2,585, a little over 3 per cent. It is to be regretted that in his admirable paper on the subject he does not tell us in how many of the whole number of cases the occiput presented posteriorly, in order that we might know in what percentage of such cases a failure of forward rotation of the occiput occurred. When such failure of forward occipital rotation occurs, the case at once becomes one involving more or less difficulty according as the head becomes more and more extended; the difficulty being of course only slight when there is only slight extension, and being most marked when extension is so great that the original vertex presentation has become converted into one of the face. The successful treatment of these cases must depend largely on the time when the diagnosis of failure of proper flexion has been discovered, and the manner in which the attendant attempts to remedy the difficulty.

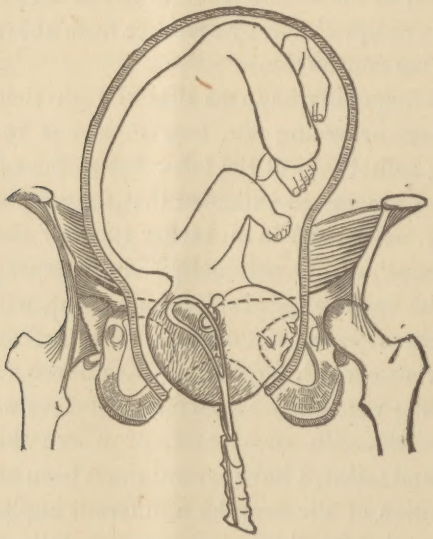
The diagnosis of a posterior position of the occiput having been made, the progress of the case should be carefully watched, with a view of an immediate detection of any failure of proper flexion. The posterior fontanelle should always be easily reached, while the lower the head descends the greater the difficulty in touching the anterior fontanelle,

on account of the crowding of the frontal end of the fœtus against the symphysis pubis. If at any time during the progress of the case the posterior fontanelle remains stationary while the anterior is becoming more and more easy of access, the attendant is at once conscious of a gradual extension of the head. It is at this time that an intelligent interference with the case can be of the greatest service. The fingers of the right hand, if the occiput be to the mother's right, should be applied to the frontal end of the head, and, during a pain, a firm resistance, not pressure, should be kept up to prevent any further descent, and the actual flexion of the head should be left to the pressure exercised on the occipital end by the force from above occasioned by the uterine contractions.

It not unfrequently happens that the physician does not see the case, or seeing the case does not recognize the threatening trouble, until the labor has so far advanced and the head has become so extended that the simple application of pressure, as advised in an earlier stage of the case, is no longer practicable. Occasionally such pressure, in conjunction with the vectis applied over the occiput, will, according to some writers, even at this late period of the labor, be found to be successful, although I have never been able myself to use the vectis under such circumstances with any very marked success. In such cases, or where the vectis has been tried and failed, I have several times been able to rectify the malposition of the head by a different application of the forceps from that in which they are generally used. It is to this method of delivery by forceps that I would especially call the attention of the members of the Society.

Where in posterior positions of the occiput the head has become to any degree extended, the use of the forceps, as usually applied, only serves, when traction is made, to increase the extension, thus facilitating the change of an occipital into a face presentation. The object I have en-

deavored to obtain in the use of the forceps in this class of cases, is not only the descent of the head but its flexion. Several times at the Boston Lying-In Hospital and in my own private and consultation practice, I have been able to overcome the existing difficulty, and to effect both the descent and flexion and consequent rotation of the head, by the application of the forceps reversed, that is, with the convexity of the pelvic curve toward the pubes instead of toward the hollow of the sacrum as is usual. To effect this change of flexion, the blades should be introduced in such a way that



the cephalic curve should pass over the ears of the child, the tips resting on the occiput. When traction is exerted, the forceps being so applied, the result must be that the main force of the traction is expended on the occiput, and, as the result, the occiput is drawn down and the head tilting on its attachment to the spinal column yields to the leverage

thus applied, and the frontal end being forced up the flexion of the head is at once established, and the occiput becomes the lowest part; the case can then be left to nature, and the forward rotation of the occiput soon takes place. The flexion is often facilitated by pressing the frontal end of the head upwards with one hand, while the occiput, held firmly within the blades of the forceps reversed, is drawn downwards with the other. If, owing to some emergency, immediate delivery is demanded, the forceps should always be taken off after the head has been flexed and then reapplied in the usual way, and the delivery effected; the operator favoring during the traction the forward rotation of the occiput. The extraction of the head with the forceps reversed is not a safe procedure, the tips of the blades tending to produce lacerations in the floor of the vagina and of the perineum.

In three cases, where all efforts at restoring the normal flexion of the head had failed, and the descent of the head had become arrested, owing to a want of adaptability between the fœtal and pelvic diameters, I have seen further delay avoided and a successful and comparatively speedy result obtained to both mother and child by completely extending the head, thus converting a brow presentation at once into the most favorable variety of face presentation, namely, that in which the chin presents under the pubic arch.

The object sought in the preparation of the paper has been to insist upon the necessity of early making out the position, as well as the presentation, in every case of labor; the great advantage to be gained from the practice of an external palpation of the abdomen; in cases of posterior positions of the occiput the importance of an early recognition of any lack of flexion which will be liable to prevent the subsequent forward occipital rotation; the danger, if forceps are applied to an extended head so situated, of still further increasing

the extension, and the ease with which traction, applied on the occiput by means of the forceps reversed, not only restores the lack of flexion, but also facilitates the forward rotation of the occiput and the speedy and successful termination of the labor.